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## REMARKS

Claims 1-6, 8, 11-13, 16-19, 21 and 22 have been amended to correct formality errors and to more clearly define the invention.

Support for the amendments is found in the existing claims and in the Application description in connection with Figure 5 and other places.

*I. Rejection of claims under 35 USC 101*

Claims 1-18 are rejected as being directed to non-statutory subject matter and need to be amended to indicate a computer implements the subject matter.

Independent claims 1, 11, 17 and 19 are amended to indicate the methods involved are "performed by a data processor". Therefore Applicants submit the claimed arrangements comprise statutory subject matter under 35 USC 101 and removal of the rejection is respectfully requested.

*II. Rejection of claims 1-22 under 35 USC 112.*

Claims 1-22 are rejected under 35 USC 112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 is amended to include the term "said second and third records include data elements" and provide antecedent basis for the "data elements".

Claim 1 is amended to incorporate "said method comprising the steps of" and to eliminate the term "during a time interval".

Claim 1 is also amended to remove "proportionate usage" and now incorporates the term "proportion of usage of said executable program by individual applications of said different applications". As such it is submitted claim 1 unambiguously recites that the "proportion of usage" is of "said executable program" by "individual applications of said different applications". Claim 1 (and other claims) is also amended to recite "said executable program" instead of "said program" everywhere to maintain clarity and remove this ground of rejection.

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Claim 1 is further amended to remove "particular users" and instead recites "said at least one of said different users". Consequently, claim 1 unambiguously indicates the "at least one of said different users" for which support is already provided in the claim. Claim 1 is further amended to recite "predetermined processing operation event" for clarification. This term is further clarified by claim 6 and it is submitted complies with the requirements of 35 USC 112 second paragraph.

Claims 2 and 13 are amended to recite "said executable program" instead of "said program" everywhere to maintain clarity and remove this ground of rejection.

Claims 4 and 5 are amended to recite "intermittently compiling data" instead of "compiling data" everywhere to maintain clarity and remove this ground of rejection.

Claim 11 is amended in accordance with amendments to claim 1 in order to provide clarity and remove this ground of rejection.

Claim 19 is amended to clarify it is a method claim and to remove the ground of rejection indicating the lack of clarity concerning whether the claim is a method or system claim. Consequently claim 20, a method claim, is now compatible with method claim 19 and it is submitted that the rejection of claims 19 and 20 may now be removed.

Applicant respectfully disagrees with the rejection of claims 4, 6-7, 10-11, 15-19 and 22 as erroneously using the term "and" in a list following a "one of" term. It is correct, commonly used and accepted by the USPTO that an "and" connector in a list or group of items is appropriate (indeed preferable to an "or") following a "one of" term. Consequently the grounds of rejection of claims 1-22 under 35 USC 112 second paragraph are no longer deemed applicable and their withdrawal is respectfully requested.

### *III. Rejection under 35 U.S.C. 103(a)*

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over AIX Version 3.2 (hereafter AIX) ("AIX Version 3.2 – System Management Guide: Operating System and Devices, Chapter 14 System Accounting" published

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October 1 1993). These claims, as amended, are considered patentable for the following reasons.

Amended claim 1 recites in "a system supporting shared access to a plurality of concurrently operating applications by multiple users associated with one or more entities" a method for "monitoring individual application utilization" involving "maintaining a first record of different users associated with an entity; maintaining a second record of different applications invoked by at least one of said different users; maintaining a third record of use of an executable program employed by said different applications invoked by said at least one of said different users, said record of use supporting allocation of proportion of usage of said executable program by individual applications of said different applications; and employing said first, second and third records for intermittently compiling data identifying operation usage characteristics of individual applications of said different applications by said at least one of said different users associated with said entity in response to a predetermined processing operation event". These features are not shown or suggested in AIX.

The system of amended claim 1 monitors "individual application utilization" by "maintaining" a "record of use of an executable program employed" by "different applications invoked" by "at least one of said different users, said record of use supporting allocation of proportion of usage of said executable program by individual applications of said different applications". The record is used in "intermittently compiling data identifying operation usage characteristics of individual applications of said different applications by said at least one of said different users associated with said entity in response to a predetermined processing operation event". AIX fails to show or suggest such features. As recognized in the Rejection page 6 section 12, AIX does not teach "maintaining" a record "supporting allocation of proportion of usage" of an "executable program by individual applications" of "different applications" invoked by "at least one of said different users". Further, contrary to the Rejection statement made on page 6, AIX does NOT provide information that can be used to support "allocation of proportion of usage" of an "executable program by individual applications" of "different applications" invoked by "at least one of said different users". Further, it would not be obvious to modify the AIX system to incorporate such features.

The process accounting data of AIX page 14-3 lines 6-9 relied on in the Rejection (page 6 section 13) is incapable of supporting "allocation of proportion of usage" of an "executable program by individual applications" of multiple "different applications" invoked by "at least one of said different users". The AIX

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system allows process accounting data to be acquired via two commands, acctcms and acctcom respectively (AIX page 14-3 lines 6-9).

The acctcms command "summarizes resource use by command name. This provides information on how many times each command was run, how much process time and memory was used, and how intensely the resources were used (also known as the hog factor). The acctcms command produces long-term statistics on system utilization, providing information on total system usage and the frequency with which commands are used" (AIX page 14-3 lines 6-9, page 14-4 lines 1-9). The cited factors, specifically "how many times each command was run, how much process time and memory was used, and how intensely the resources were used" provide NO information about usage of an "executable program by individual applications" of multiple "different applications". These factors are consequently incapable of supporting "allocation of proportion of usage" of an "executable program by individual applications" of multiple "different applications" invoked by "at least one of said different users".

The acctcom command "handles the same data as the acctcms command, but provides detailed information about each process. You can display all process accounting records or select records of particular interest. Selection criteria include the load imposed by the process, the time period when the process ended, the name of the command, the user or group that invoked the process, and the port at which the process ran". (AIX page 14-4 lines 1-9). The cited factors, specifically "the load imposed by the process, the time period when the process ended, the name of the command, the user or group that invoked the process, and the port at which the process ran" provide NO information about usage of an "executable program by individual applications" of multiple "different applications". These factors are consequently incapable of supporting "allocation of proportion of usage" of an "executable program by individual applications" of multiple "different applications" invoked by "at least one of said different users".

Further, there is no 35 USC 112 compliant enabling disclosure in AIX teaching HOW a record "supporting allocation of proportion of usage" of an "executable program by individual applications" of "different applications" invoked by "at least one of said different users" may be implemented. In contrast, the Application provides detailed teaching on how this feature may be implemented. Specifically, the claimed arrangement may be implemented using records 412, 413 and 414 of Figure 4A, for example. The "third record" is exemplified as record 413

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"An example of this record may be Application Program List 413, shown in Fig. 4A. As discussed before, Application Program List 413 includes a program weight factor for each program being tracked. The use of weight factors supports allocation of proportionate usage of the different programs among the different applications of the system being monitored" (Application page 10 line 14 to page 15 line 6).

In addition, there is no recognition of the advantage or need to enable "allocation of proportion of usage" of an "executable program by individual applications" of "different applications" invoked by "at least one of said different users". In contrast the Application on page 5 lines 12-15 states "one advantage of the present invention is the ability to track and associate a given program with a given computer application being invoked in a computer system". There is no other reason or motivation for modifying the AIX system to include the claimed features. Consequently withdrawal of the Rejection of amended claim 1 under 35 USC 103(a) is respectfully requested.

Amended dependent claim 2 is considered to be patentable based on its dependence on claim 1. Claim 2 is also considered to be patentable because AIX does not show or suggest "allocating proportion of usage of said executable program between said different applications by determining an estimate of relative duration of use of said executable program by individual applications of said different applications". As previously explained in connection with claim 1, AIX fails to recognize the need for, or contemplate, "allocating usage" of an "executable program" between "different applications" at all. Contrary to the Rejection statement on page 7, the AIX system and commands acctcms and acctcom are incapable of providing the claimed features as previously explained (AIX page 14-3 lines 6-9 and page 14-4 lines 1-9).

Amended dependent claim 3 is considered to be patentable based on its dependence on claims 1 and 2. Claim 3 is also considered to be patentable because AIX does not show or suggest "determining and recording weighting factors associated with individual applications of said different applications, said weighting factors representing an estimate of relative duration of use of said executable program by individual applications of said different applications". As previously explained in connection with claim 1, AIX fails to recognize the need for or contemplate "allocating usage" of an "executable program" between "different applications" at all. Contrary to the Rejection statement on page 7, AIX does NOT mention suggest or contemplate the use of "weighting factors representing an estimate of relative

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**duration** of use of said executable program by individual applications of said different applications". The AIX system and commands acctcms and acctcom are incapable of providing the claimed features (AIX page 14-3 lines 6-9 and page 14-4 lines 1-9).

Amended dependent claim 4 is considered to be patentable based on its dependence on claim 1. Claim 4 is also considered to be patentable because AIX does not show or suggest the claim 4 feature combination involving "intermittently compiling data identifying at least one of, (a) processor time used by an individual application, (b) a number of file accesses made by an individual application, and (c) a number of storage access requests made by an individual application".

Amended dependent claim 5 is considered to be patentable based on its dependence on claims 1 and 4. Claim 5 is also considered to be patentable because AIX does not show or suggest the feature combination of claim 5 including "intermittently compiling data supporting identifying relative operation usage characteristics by an individual application as a proportion of said different applications".

Amended dependent claim 6 is considered to be patentable based on its dependence on claim 1. Claim 6 is also considered to be patentable because AIX does not show or suggest the feature combination in which "said predetermined processing operational event comprises at least one of, (a) a data access request, (b) a storage access request, (c) termination of use of an individual application, (d) termination of a user operation session and (e) a periodically generated command".

Dependent claim 7 is considered to be patentable based on its dependence on claim 1. Claim 7 is also considered to be patentable because AIX does not show or suggest the feature combination of claim 6 including "maintaining a **fourth record** associating a **processing device** with at least one of, (a) a user, (b) an entity and (c) an individual application". Contrary to the Rejection statement on page 8, the process accounting section relied on in AIX page 14-2 does NOT show or suggest "maintaining a **fourth record** associating a **processing device** with at least one of, (a) a user, (b) an entity and (c) an individual application". The AIX section relied on (page 14-2) does not mention a processing device at all or contemplate or suggest the association of a processing device with "at least one of, (a) a user, (b) an entity and (c) an individual application".

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Amended dependent claim 8 is considered to be patentable based on its dependence on claim 1. Claim 8 is also considered to be patentable because AIX does not show or suggest "said second and third records include data elements and said data elements of said second and third records are **dynamically created** during a session of operation". AIX fails to recognize the need for, or contemplate, maintaining a "third record" supporting "allocating usage" of an "executable program" between "different applications". Contrary to the Rejection statement on page 8, AIX on page 14-1 does NOT mention suggest or contemplate the use of "data elements of said second and third records" that are "**dynamically created** during a session of operation".

Amended dependent claim 9 is considered to be patentable based on its dependence on claim 1. Claim 9 is also considered to be patentable because AIX does not show or suggest "said executable program employed by said different applications comprises a program providing a **function** shared by said different applications". Contrary to the Rejection statement on page 8, AIX on page 14-2 Connect Time Accounting section lines 1-11 discloses creating a record including "user name, the date and time of login, and the login port" as well as entries concerning "system shutdowns and startups". These entries do not show or suggest supporting "allocating usage" between the "different applications" of an "executable program" providing a "function shared" by the "different applications". The AIX entries relied on are not function specific or application specific and are therefore incapable of the claimed features.

Amended dependent claim 10 is considered to be patentable based on its dependence on claim 1.

Independent claim 11 recites "in a system supporting shared access to a plurality of concurrently operating applications by multiple users associated with one or more entities" a method involving "during a session of user operation, maintaining a first record of different users associated with an entity; maintaining a second record of different applications invoked by at least one of said different users; maintaining a third record associating a processing device with said at least one of said different users; and employing said first, second and third records for intermittently compiling data identifying at least one of, (a) processor time used by an individual application, (b) a number of file accesses made by an individual application, and (c) a number of storage access requests made by an individual application of said different applications by said at least one of said different users

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associated with said entity in response to a predetermined processing operation event". These features are not shown or suggested in AIX.

Amended independent claim 11 is considered to be patentable for reasons given in connection with claims 1, 2 and 7. Claim 11 is also considered to be patentable because AIX does not show or suggest "during a session of user operation" maintaining a "third record associating a processing device with said at least one of said different users" and employing the "first, second and third records for intermittently compiling data identifying at least one of, (a) processor time used by an individual application, (b) a number of file accesses made by an individual application, and (c) a number of storage access requests made by an individual application of said different applications by said at least one of said different users associated with said entity in response to a predetermined processing operation event". AIX nowhere shows or suggests "during a session of user operation" maintaining a "third record associating a **processing device** with said at least one of said **different users**". AIX does not mention or contemplate such a capability in combination with the other claimed features. Specifically, AIX fails to show or suggest this feature in combination with "employing" the "first, second and third records for intermittently compiling data identifying at least one of, (a) processor time used by an **individual application**, (b) a number of file accesses made by an **individual application**, and (c) a number of storage access requests made by an **individual application** of said different applications by said at least one of said different users associated with said entity in response to a predetermined processing operation event".

Amended dependent claim 12 is considered to be patentable based on its dependence on claim 11 and for reasons given in connection with claim 1.

Amended dependent claim 13 is considered to be patentable based on its dependence on claims 11 and 12 for reasons given in connection with claims 1 and 2.

Dependent claim 14 is considered to be patentable based on its dependence on claim 11. Claim 14 is also considered to be patentable because AIX does not show or suggest "maintaining" a "third record" associating a "processing device" with "said at least one of said different users" and "said entity". Contrary to the Rejection statement on page 10, these features are not shown on AIX page 14-3.



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Dependent claim 15 is considered to be patentable based on its dependence on claim 11 and for reasons given in connection with claim 1.

Amended dependent claim 16 is considered to be patentable based on its dependence on claim 11. Claim 16 is also considered to be patentable because AIX does not show or suggest "intermittently compiling data identifying at least one of, (a) size of storage employed by an **individual application**, (b) a number of input/output requests made by an **individual application**, (c) a number of file deletion requests made by an **individual application** and (d) storage size employed for user data". Contrary to the Rejection statement on page 10, these features are not shown on AIX page 14-3 Disk Usage Accounting section. The relied on section describes charging a user based on links to files in a user login directory and NOT compiling data identifying at least one of, (a) size of storage employed by an **individual application**, (b) a number of input/output requests made by an **individual application** and (c) a number of file deletion requests made by an **individual application**".

Independent claim 17 is considered to be patentable for reasons given in connection with claims 1, 4 and 11.

Amended dependent claim 18 is considered to be patentable based on its dependence on claim 11. Claim 18 is also considered to be patentable because AIX does not show or suggest "generating a record for use in **adaptively adjusting** system characteristics to improve system performance". AIX fails to show or suggest such a feature combination on page 14-1 Accounting Overview section or elsewhere.

Amended independent claim 19 is considered to be patentable for reasons given in connection with claims 1 and 11. Claim 19 is also considered to be patentable because AIX does not show or suggest "initiating display of a first image including a user selectable item for selecting display of image data representing processor utilization collated by individual application for a plurality of concurrently operating applications; and in response to user selection of said item, initiating display of a second image including compiled data identifying at least one of, (a) processor time used by an individual application, (b) a number of file accesses made by an individual application, and (c) a number of storage access requests made by an individual application of said plurality of concurrently operating applications". AIX nowhere shows or suggests "in response to user selection" of an item in a "first image" initiating "display of a second image including compiled data identifying at least one of, (a) processor time used by an **individual application**, (b) a number of

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file accesses made by an **individual application**, and (c) a number of storage access requests made by an **individual application** of said plurality of concurrently operating applications”.

The Process Accounting and Keyboard Command sections on pages 14-2 and 14-6 of AIX respectively, relied on in the Rejection (page 11) nowhere discusses or mentions compiling data on “processor utilization collated by **individual application** for a **plurality of concurrently operating applications**”. AIX also does not mention or contemplate initiating “display of a **second image**” including specific compiled data identifying at least one of, (a) processor time used by an **individual application**, (b) a number of file accesses made by an **individual application**, and (c) a number of storage access requests made by an **individual application** of said plurality of concurrently operating applications”. AIX also fails to suggest providing a “second image” including the recited data in response to user selection of a “user selectable item” for selecting display of image data representing processor utilization collated by individual application for a plurality of concurrently operating applications” in a first image. This image menu navigation architecture enables a user to optionally examine “processor utilization” characteristics “collated by **individual application**” of a “**plurality of concurrently operating applications**”. This navigation capability is nowhere suggested or contemplated in AIX and its advantages are also not recognized in AIX. Further AIX provides no other motivation or reason for incorporating the claimed features.

Dependent claim 20 is considered to be patentable based on its dependence on claim 19. Claim 20 is also considered to be patentable because AIX does not show or suggest “deriving said compiled data by intermittently generating data identifying operation usage characteristics of individual applications of said plurality of concurrently operating applications based on accumulated operation data records, said operation usage characteristics being collated for individual users associated with an entity”. Contrary to the Rejection statement on page 12, these features are not shown in the Disk Usage Accounting section on AIX page 14-2. This section makes no mention or suggestion of deriving “compiled data by intermittently generating data identifying operation usage characteristics of **individual applications** of said **plurality of concurrently operating applications** based on accumulated operation data records, said operation usage characteristics being collated for individual users associated with an entity”. The section relied on fails to mention or suggest deriving data concerning “operation usage” on an application specific basis.

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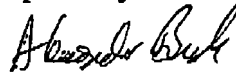
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Independent system claim 21 mirrors method claim 1 and is considered to be patentable for similar reasons.

Independent system claim 22 mirrors method claim 11 and is considered to be patentable for similar reasons. Consequently withdrawal of the Rejection of claims 1-22 under 35 USC 103(a) is respectfully requested.

In view of the above amendments and remarks, Applicants submit that the Application is in condition for allowance, and favorable reconsideration is requested.

Respectfully submitted,



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